the rinsing liquid is applied along the outer side of the substrate carrier by the overflow collar 50 when the outlet 52 is closed, in order to likewise clean this outer side, to the extent this is necessary. The upwardly directed flow along the outer side of the substrate carrier is supplemented by a flow produced by the nozzles 55. After the rinsing process, rinsing fluid remaining in the annular chamber 53 first is drained off through the outlet 52. Next, the outlet 52 is again closed and the above-described drying process is initiated, whereby the flow also runs along the outside of the substrate carrier in order to produce a drying effect. The flow along the outside of the substrate carrier and the drying of the substrate carrier is again supplemented by a gas flow flowing through the nozzles 55.

The rinsing and drying device of the first and second embodiments are, respectively, surrounded by a tank or basin (not illustrated) to catch the used rinsing liquid.

Fig. 6 shows a further embodiment of the invention. Figure 6 shows a cross sectional view of a rinsing and drying device 100 of the present invention. Above the rinsing and drying device 100, a substrate carrier 103, holding a semi-conductor wafer, is arranged, whose construction and function essentially corresponds to the substrate carrier 3 of the first embodiment. The substrate carrier 103 comprises an upper portion 105 and a lower portion 106, whereby the

wafer is clamped between the upper portion 105 and the lower portion 106.

A body 108 is disposed on the upper portion 105, whose shape matches the shape of the upper portion 105 of the substrate carrier 103, and which has a greater periphery than the upper portion 105. On the outer periphery of the body 108, a downwardly projecting flange 109 is formed, which partially surrounds the upper portion 105, whereby a downwardly opening chamber 110 is formed between the flange 109 and the upper portion 105.

In the body 108, a transverse bore 112 is formed, which is connected in a central region of the body 108 with a vertical bore 113. The vertical bore is connected by a connecting element 114 with a line (not shown), through which a fluid can be conducted into the bore 113 and thereby, the transverse bore 112. The end of the bore 112 remote from the bore 113 is connected with a chamber 116, which extends about the entire body 108, and which has a right-angled cross section. In a floor 117 of the chamber 116, an opening 118 is formed, which connects the chamber 116 with the chamber 110.

Therefore, in operation of the device 100, a fluid, such as a rinsing fluid, can be led via the connector 114 into the body 108, and is then led to the chamber 116 via the bores 113 and 112. Through the opening 118, the rinsing liquid then leaks out into the chamber 110,

from which it then runs downwardly to the clean the outside of the substrate carrier.

The rinsing and drying device 100 further has a base 120. The base 120 has a base portion 122, in which a transverse bore 124 is formed. The base portion 122 has a central opening, which defines an inner periphery 128 of the base portion 122. On an inner side of the base portion 122, a flange 130 is formed, whose inner side 132 is aligned with the inner periphery 128. An outer side 134 of the flange 130 forms an inwardly directed projection 136 in an upper area.

On an upper end of the flange 130, the base 120 has an inwardly extending nozzle plate 140 perpendicular to the flange 130, in which a plurality of nozzles 142 are disposed, as will be described below in greater detail. In a central area of the nozzle plate, a downwardly extending nozzle body 144 is formed as one piece with the nozzle plate 140. Between the inner periphery 128 of the base portion 122 and the inner side 132 of the flange 130 on one side and an outer side of the nozzle body 144 on the other, a downwardly opening annular chamber 146 is formed. The underside of the annular chamber 146 is closed off by a ring-shaped plate 148. As shown in Fig. 6, the base portion 122 and the nozzle body 144 have recesses to the annular chamber, which, respectively, form a shoulder for supporting the plate 148. The plate 148 is welded onto the base portion 122 and the nozzle body 144.